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EXAMINER

SHAH, TUSHAR S

ART UNIT

PAPER NUMBER

2184

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,384	<b>Applicant(s)</b> YANG ET AL.	
	<b>Examiner</b> TUSHAR S. SHAH	<b>Art Unit</b> 2184	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/25/2008</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

The action is in response to the Request for Continued Examination filed on November 18<sup>th</sup>, 2008

### ***Status of Claims***

Claims 1-11 and 13-20 are pending, of which claims 1 and 11 are in independent form. Claims 1, 11, and 13-15 have been amended. Claims 1-11 and 13-20 are rejected under USC 103(a)

### ***Response to Arguments***

1. Applicant's arguments, see page 13-14 of the response regarding a timing program, filed November 18<sup>th</sup>, 2008, with respect to the rejection(s) of claim(s) 1 and 11 under 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yoneda US Publication Number 2006/0279642 A1.
2. Applicant's arguments filed on November 18, 2008 have been fully considered but they are not persuasive.

Regarding the amended independent claim 1, the applicant has argued, on page 14 of the response, that the cited Chang reference fails to teach "copying the AutoRun program and the specific file to be executed to a host disk of the host computer." A similar argument is made to amended independent claim 11.

Referring to applicant's argument to the amended claim 1, Chang discloses, on page 2 paragraph 0029, that the auto run firmware informs the host of the presence of auto run executable files and those files are then provided to the host computer. The examiner interprets this as the executable files are transferred to the host computer.

The grounds of rejection have been updated in response to the amendments made.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 11-15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang US Publication No. 2005/0083741 A1 (hereinafter Chang) in view of Yoneda US Publication Number 2006/0279642 A1 (hereinafter Yoneda).

1. Claims 1-7, 11-15 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang US Publication No. 2005/0083741 A1 (hereinafter Chang).

**Referring to claim 11, Chang discloses:**

A method of AutoRun using a semiconductor storage device, the semiconductor storage device (Integrated Circuit Memory Device 100, Chang Fig. 1) being coupled with a host computer (host 150, Chang Fig. 1) having an operation system with an AutoRun mechanism, comprising:

1) the operation system of the host computer sending out a first inquiry command (Step 310, the host computing device performs an enumeration to identify the newly attached USB peripheral, Chang page 2, paragraph 0025, lines 1-2) to the semiconductor storage device (USB peripheral) for detecting the type of the device;

2) the semiconductor storage device replying to the first inquiry command from the operation system that the device is an optical disk (Step 33, the autorun firmware in the USB peripheral announces itself with a device interface description such as a Bulk Only Transport corresponding to a CD-ROM, Chang page 2, paragraph 0027, lines 1-5);

3) the operation system of the host computer deeming the semiconductor storage device as an optical disk based on the reply from the semiconductor storage device (the USB peripheral firmware announces itself as a CD-ROM using the bulk only transport protocol, Chang page 2, paragraph 0027, lines 1-5), and performing an

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operation accordingly (the host request enumeration of the files in the root directory and the firmware responds, Chang page 2, paragraph 0028, lines 5-7); and

4) the AutoRun mechanism of the operation system searching for an AutoRun configuration file (Autorun.inf, Chang page 2, paragraph 0029, line 4) stored in the semiconductor storage device (the file is stored on the memory component of the USB peripheral, Chang page 2, paragraph 0029, lines 3-5) which simulates an optical disk drive so that a specific file directed by the AutoRun configuration file can be executed, the searching step comprising:

(4-1) the operation system sending out a second inquiry command to detect whether an optical disk is inserted into the optical disk drive when the semiconductor storage device is deemed to be an optical disk drive (Inherent, it is the standard operation every operating system to inquire as to whether or not there is a disk in a drive. It is there fore inherent that if the USB peripheral of Chang presents itself as a CD-ROM drive, the OS of the host system would necessarily inquire as to whether or not the device had a disk in it, Chang page 2, paragraphs 0025 and 0027);

(4-2) in response to the second inquiry command, the semiconductor storage device, which simulates an optical disk drive, replying to the operation system after a predetermined delay, that an optical disk is already inserted into the optical disk drive so that the operation system can deem the semiconductor storage device as an optical disk with in an optical disk (Inherent, in mimicking the operation of CD Rom drive, the USB peripheral would necessarily have to indicate that it was a CD drive with a disk. Chang indicates that the host requests enumeration of files in the disk. It could only

make this request in the event that it believed there was a disk and there for a file structure to be read from. Therefore this limitation is seen as inherent by the examiner, Chang page 2, paragraph 0028, lines 5-8); and

(4-3) the AutoRun mechanism of the operation system searching for the AutoRun configuration file (in response to the enumeration of the files in the USB peripheral, Chang page 2 paragraph 0028 lines 5-8, the auto run firmware informs the host of the presence of Autorun.inf, Chang, page 2, paragraph 0029, lines 1-5) stored in the semiconductor storage device which simulates the optical disk drive with an optical disk so that the operation system can execute the specific file directed by the AutoRun configuration file,

Wherein an AutoRun program is present in the semiconductor storage device coupled to the host computer and capable of directing the specific file (AutoRun firmware, page 2, paragraph 0029); and

The AutoRun program is directed by the AutoRun configuration file (Autorun.inf, page 2, paragraph 0029, line 3), wherein the searching step comprises:

The operation system accessing the AutoRun configuration file stored in the semiconductor storage device to search for the AutoRun program, and;

executing the AutoRun program in the semiconductor storage device to search for the specific file, copying the AutoRun program in the semiconductor storage device and the specific file to be executed to a host disk of the host computer (that the auto run firmware informs the hose of the presence of auto run executable files and those files

are then provided to the host computer. The examiner interprets this as the executable files are transferred to the host computer (Chang page 2, paragraph 0029);

The copy of the AutoRun program in the host disk of the host computer calling and executing the copy of the specific file (the host executes the auto run functionality, Chang page 2, paragraph 0029).

It is noted that Chang fails to disclose, starting a timing program with a predetermined timing value; and the timing program sending a out a reset command to the semiconductor storage device when time arrives at the predetermined timing value.

However, Yoneda discloses, starting a timing program (timer means, Yoneda page 3, paragraph 0042, lines 3-7) with a predetermined timing value (predetermined time period, page 3, paragraph 0042, line 7); and

the timing program sending a out a reset command to the semiconductor storage device when time arrives at the predetermined timing value (after the expiration of the predetermined time period, the changing means resets the connection with the pc to change to operation mode of the camera, Yoneda page 3, paragraph 0042, lines 7-15).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Yoneda before him or her, to utilize the timing means of Yoneda with the AutoRun method of Chang.

The motivation to combine is apparent in Yoneda, page 3 paragraph 0042, lines 15-22, where it states that by running a timer, even if the device has an error or failure in being detected as a storage device, the device may still operate in a different mode.



Therefore it would have been obvious to combine Yoneda with Chang to obtain the invention as disclosed in the instant claim.

**As per claim 13**, Chang discloses, the method of claim 11 wherein an AutoRun program is preset in the semiconductor storage device coupled to the host computer and capable of directing a specific file; and the AutoRun program is directed by the AutoRun configuration file, wherein the step 4-3) comprises:

the copy of the AutoRun program sending out a rest command to the semiconductor storage device (Step 360, a query to see if the USB peripheral is to be enumerated again, which if the autorun is complete, would allow it to announce itself as USB device (e.g. a data storage device), Chang page 2, paragraph 0030, lines 1-8).

It is noted that Chang does not appear to explicitly disclose, if the AutoRun program cannot successfully send out the reset command, the timing program sending out a reset command to the semiconductor storage device when time reaches the predetermined timing value.

However, Yoneda disclose, if the AutoRun program cannot successfully send out the reset command, the timing program sending out a reset command to the semiconductor storage device when time reaches the predetermined timing value (after the expiration of the predetermined time period, the changing means resets the connection with the pc to change to operation mode of the camera, Yoneda page 3, paragraph 0042, lines 7-15).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Yoneda before him or her, to utilize the timing means of Yoneda with the AutoRun method of Chang.

The motivation to combine is apparent in Yoneda, page 3 paragraph 0042, lines 15-22, where it states that by running a timer, even if the device has an error or failure in being detected as a storage device, the device may still operate in a different mode.

Therefore it would have been obvious to combine Yoneda with Chang to obtain the invention as disclosed in the instant claim.

**As per claim 14**, Chang discloses, the method of claim 11, wherein the step (4-3) further comprises:

The timing program sending out a reset command to the semiconductor storage device when the time reaches the predetermined timing value (after the expiration of the predetermined time period, the changing means resets the connection with the pc to change to operation mode of the camera, Yoneda page 3, paragraph 0042, lines 7-15).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Yoneda before him or her, to utilize the timing means of Yoneda with the AutoRun method of Chang.

The motivation to combine is apparent in Yoneda, page 3 paragraph 0042, lines 15-22, where it states that by running a timer, even if the device has an error or failure in being detected as a storage device, the device may still operate in a different mode.

Therefore it would have been obvious to combine Yoneda with Chang to obtain the invention as disclosed in the instant claim.

**As per claim 15**, Chang discloses, the method of claim 14, wherein the predetermined timing value is set by a user or through a special software and/or program (the timing to re-enumerate is set by autorun firmware, Chang page 2, paragraph 0030, lines 1-8 and Fig. 3).

**As per claim 16**, Chang discloses, the method of Claim 11, further comprising the following steps for switching the semiconductor storage device to the conventional storage device after activating the AutoRun mechanism of the operation system in step 4), including:

5) resetting the semiconductor storage device (the USB peripheral re-enumerates itself to the system, Chang page 2, paragraph 0030. lines 1-8).

6) replying that the semiconductor storage device is the conventional storage device when the operation system sends out the first inquiry command for detecting the type of the device (the autorun firmware announces itself as a USB peripheral, e.g. data storage device, Step 370, Chang page 2, paragraph 0030, lines 4-6);

7) the operation system performing a configuration based on the reply from the semiconductor storage device (Step 380, the autorun firmware loads the firmware associated with the enumerated USB peripheral); and

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It is noted that neither Chang nor Yoneda specifically discloses, 8) the operation system performing a conventional storage operation on the semiconductor device according to a user command.

However, one of ordinary skill in the art would appreciate that in step 380 the USB peripheral has identified itself as a storage device and is therefore available for storage operations as per the device descriptors it provides to the host (Chang page 2, paragraph 0031, lines 5-6). Therefore it would be obvious to perform a storage operation on the USB peripheral

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Yoneda before him or her, to modify the method of Chang to perform a storage operation on the USB peripheral.

The suggestion/motivation for doing so would have been that using the USB storage device as a storage device would utilize the device in its intended fashion.

**As per claim 17**, neither Chang nor Yoneda specifically discloses, the method of claim 16, wherein said steps for switching the semiconductor storage device to a conventional storage device can be performed after activating the AutoRun mechanism of the operation system, regardless of the execution of specific file.

However, one of ordinary skill in the art would recognize that the autorun firmware could re-enumerate the device prior to the completion of the autorun executable. The autorun executable is provided to the host and once that has occurred

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it could clearly run its course independent of the USB peripheral maintaining its status as a virtual CD ROM drive.

The motivation to do so is apparent in that once the autorun executable has been provided to the host, its operation is independent of the device enumeration of the USB peripheral and therefore one of ordinary skill in the art at the time of the invention would clearly see that it is not necessary to tie the re-enumeration process to the completion of the autorun procedure.

**As per claim 18**, the method of claim 11, wherein the AutoRun mechanism of the operation system of the host computer supports an automatic execution of a file in the optical disk in the optical disk drive, and the optical disk drive is selected from the group consisting of a CD-ROM, a CD-RW, a DVD-ROM, a DVD-RAM, a blue laser DVD, and a red laser DVD (USB peripheral enumerates itself as CD-ROM, Chang page 2, paragraph 0027, lines 5-6).

**As per claim 19**, Chang discloses, the method of claim 11, wherein a device type of the semiconductor storage device can be changed by inputting an indication from a command, buttoning, or programming (person operable physical slide switch 700, Chang page 3, paragraph 0043, lines 1-5);

The semiconductor storage device is then preset as a preset type selected from the predetermined types according to the input indication (switch 700 allows a person to select from among multiple modes, functionalities or peripherals available on the USB

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device, Chang page 3, paragraph 0043, lines 2-8), and after the semiconductor storage device is reset, the semiconductor storage device is coupled to the host computer as the preset type of device (based on the position of switch 700, the various functionalities of the device maybe enabled and disabled, Chang page 3, paragraph 0044, lines 1-8).

**As per claim 20**, Chang discloses, the method of Claim 11 wherein the host computer can perform a conventional storage operation on the semiconductor storage device according to a user command (Step 370 and 380, the USB peripheral re enumerates itself as a storage device, and loads the firmware to associated with the enumerated type, making it available for commands, Chang page 2, paragraph 0031, lines 1-7).

**Referring to claim 1**, similar limitations as in claim 11 are recited. Therefore the rejection of claim 11 applies to claim 1.

**As per claim 2**, Chang discloses, the method of Claim 1, wherein the semiconductor storage device is coupled to the host computer through an interface selected from the group consisting of a USB interface, a UWB interface, a blue-tooth interface, an IrDA infrared interface, a HomeRF interface, an IEEE 802.11a interface, an IEEE 802.11b interface, an IEEE 1394 Bus, an IDE bus, a USB bus, an LAN, and a WAN (USB peripheral, Chang page 2, paragraph 0025, lines 1-2).

**As per claim 3**, the method of claim 1, wherein the predetermined device types which are supported by the AutoRun mechanism of the operation system of the host computer, are selected from the group consisting of an optical disk, a host disk, a removable disk, a USB large volume disk, and a USB flash disk (The current invention provides AutoRun by mimicking a CD-ROM drive, Chang page 2, paragraph 0027, lines 5-6).

**As per claim 4**, the method of claim 3, wherein the optical disk are selected from the group consisting of, a CD-Rom, a CD-RW, a DVD-ROM, a DVD-RW, a DVD-RAM, a blue laser DVD, and a red laser DVD (The current invention provides AutoRun by mimicking a CD-ROM drive, Chang page 2, paragraph 0027, lines 5-6).

**As per claim 5**, similar limitations as in claim 19 are recited. Therefore the rejection of claim 19 applies to claim 5.

**As per claim 6**, the method of Claim 1, wherein the predetermined device types can be defined as one or more device types based on related protocols (the USB peripheral maybe made up of several USB device, Chang page 3, paragraph 0040, lines 1-10, and Fig. 6);

The semiconductor storage device can be coupled to the host computer as one device, or as more devices which are processed according to the device types,

respectively (the USB peripheral maybe made up of several USB device, Chang page 3, paragraph 0040, lines 1-10, and Fig. 6).

**As per claim 7**, the method of Claim 1, wherein the semiconductor storage device detects whether the AutoRun configuration file is present in a storage space of the semiconductor storage device (Step 320, Chang page 2, paragraph 0026, lines 1-3 And Fig. 3);

If the AutoRun configuration file is present, the semiconductor storage device is coupled to the host computer as a preset type (step 330, Change page 2, paragraph 0027, lines 1-6 and Fig. 3);

If the AutoRun configuration file is not present, the semiconductor storage device is coupled to the host computer as a conventional storage device (Step 320 proceeds to Step 370 if the autorun firmware is disabled or not present, Chang page 2, paragraph 0026, lines 1-3 and Fig. 3).

**As per claim 8**, similar limitations as in claim 20 are recited. Therefore the rejection of claim 20 applies to claim 8.

**As per claim 9**, similar limitations as in claim 17 are recited. Therefore the rejection of claim 17 applies to claim 9.



**As per claim 10**, Chang discloses, the method of claim 9, wherein the conventional storage operation is a process based on a protocol according to a conventional device type of the semiconductor storage device, and the protocol are selected from the group consisting of UFI, SFF80201, SCSI Transparent Command Set, Reduced Block Commands (RBC), T10 Project 1240-D, ZIP Disk and MO Disk protocols (SCSI transparent command set, Chang page 2, paragraph 0027, line 4).

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUSHAR S. SHAH whose telephone number is (571)270-1970. The examiner can normally be reached on Mon-Fri 7:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Henry Tsai can be reached on 571-272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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